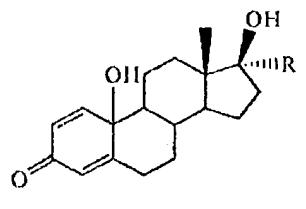


In the Claims

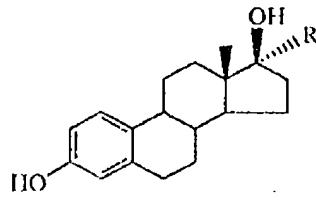
This listing of claims will replace all prior versions and listings of claims in this application.

1 (Currently Amended). A method for providing estrogen replacement therapy to a patient while minimizing undesirable side effects associated with estrogen treatment or therapy, wherein said method comprises administering to the patient an effective amount of a quinol that is converted to a biologically active estrogen compound *in vivo*, wherein the quinol has the general structure:



wherein R is selected from the group consisting of H and ethynyl.

2 (Currently Amended). The method according to claim 1, wherein the quinol is converted to [[the]] a biologically active estrogen compound having the general structure



wherein the quinol is converted to the biologically active estrogen compound via enzyme-catalyzed reduction.

3 (Original). The method according to claim 2, wherein the enzyme catalyzed reduction occurs with NADH as a reducing agent.

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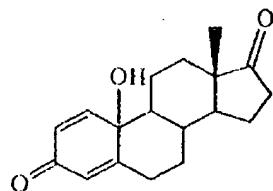
4 (Original). The method according to claim 2, wherein the enzyme catalyzed reduction occurs with NADPH as a reducing agent.

5 (Original). The method according to claim 1, wherein the undesirable side effect is excessive estrogenic uterine tissue stimulation.

6 (Original). The method according to claim 1, wherein the undesirable side effect is excessive estrogenic breast tissue stimulation.

7 (Canceled).

8 (Original). The method according to claim 1, further comprising administering the quinol by a route selected from the group consisting of oral, buccal, intramuscular, transdermal, intravenous, and subcutaneous.



9 (Canceled).

10 (Currently Amended). The method according to claim 1, wherein the biologically active estrogen compounds are provided to the patient for the treatment or prevention of symptoms, diseases, or conditions associated with menopause, wherein the symptoms, diseases, or conditions associated with menopause is any one or more selected from the group consisting of: irregular period, hot flashes, increased risk of vaginal and/or bladder infection, urge incontinence, stress

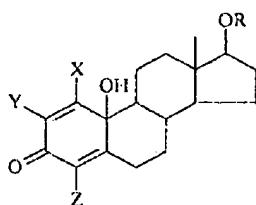
incontinence, fatigue, depression, loss of muscle mass, increased fat tissue, thinning and loss of skin elasticity, loss of bone tissue, and impaired cognition.

11 (Currently Amended). The method according to claim 1[[0]], wherein the biologically active estrogen compounds are provided to the patient for the treatment or prevention of conditions associated with the bone, wherein the conditions associated with the bone is any one or more selected from the group consisting of: osteoporosis, osteomyelitis, ischemic bone disease, fibrous dysplasia, rickets, Cushing's syndrome and osteoarthritis.

12 (Currently Amended). The method according to claim 1[[0]], wherein the biologically active estrogen compounds are provided to the patient for treatment or prevention of conditions associated with heart disease, wherein the conditions associated with heart disease is any one or more selected from the group consisting of: stroke, cardiac ischemia, myocardial infarction, chronic or acute heart failure, cardiac dysrhythmias, atrial fibrillation, paroxysmal tachycardia, ventricular fibrillation and congestive heart failure.

13 (Canceled).

14 (Currently Amended). A quinol that is converted to a biologically active estrogen compound via enzyme catalyzed reduction, said quinol having the general structure



wherein

R is selected from the group consisting of H, alkyl, cycloalkyl, aryl, heterocycle, heteroaryl; alkylamino, hydroxyalkyl, alkoxyalkyl, and alkylaryl;

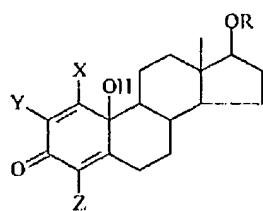
X is selected from the group consisting of hydrogen, halogen, isopropyl, alkyl, alkenyl, alkynyl, carbocycle, cycloalkyl, aryl, heterocycle, heteroaryl, alkylamino, hydroxyalkyl, alkoxyalkyl, and a linear or branched hydrocarbon from 1-15 atoms carbon atoms in length, that can optionally include one or more heteroatoms in the chain;

Y is selected from the group consisting of hydrogen, halogen, isopropyl, alkyl, alkenyl, alkynyl, carbocycle, cycloalkyl, aryl, heterocycle, heteroaryl, alkylamino, hydroxyalkyl, alkoxyalkyl, and a linear or branched hydrocarbon from 1-15 atoms carbon atoms in length, that can optionally include one or more heteroatoms in the chain; and

Z is selected from the group consisting of hydrogen, halogen, isopropyl, alkyl, alkenyl, alkynyl, carbocycle, cycloalkyl, aryl, heterocycle, heteroaryl, alkylamino, hydroxyalkyl, alkoxyalkyl, and a linear or branched hydrocarbon from 1-15 atoms carbon atoms in length, that can optionally include one or more heteroatoms in the chain.

15-19 (Cancelled).

20 (Currently Amended). A pharmaceutical composition comprising a quinol that is converted to a biologically active estrogen compound via enzyme catalyzed reduction, wherein said composition further comprises a pharmaceutically acceptable carrier, wherein said quinol has the general structure:



wherein

R is selected from the group consisting of H, alkyl, cycloalkyl, aryl, heterocycle, heteroaryl, alkylamino, hydroxyalkyl, alkoxyalkyl, and alkylaryl;

X is selected from the group consisting of hydrogen, halogen, isopropyl, alkyl, alkenyl, alkynyl, carbocycle, cycloalkyl, aryl, heterocycle, heteroaryl, alkylamino, hydroxyalkyl, alkoxyalkyl,

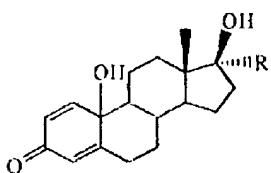
and a linear or branched hydrocarbon from 1-15 atoms carbon atoms in length, that can optionally include one or more heteroatoms in the chain;

Y is selected from the group consisting of hydrogen, halogen, isopropyl, alkyl, alkenyl, alkynyl, carbocycle, cycloalkyl, aryl, heterocycle, heteroaryl, alkylamino, hydroxyalkyl, alkoxyalkyl, and a linear or branched hydrocarbon from 1-15 atoms carbon atoms in length, that can optionally include one or more heteroatoms in the chain; and

Z is selected from the group consisting of hydrogen, halogen, isopropyl, alkyl, alkenyl, alkynyl, carbocycle, cycloalkyl, aryl, heterocycle, heteroaryl, alkylamino, hydroxyalkyl, alkoxyalkyl, and a linear or branched hydrocarbon from 1-15 atoms carbon atoms in length, that can optionally include one or more heteroatoms in the chain.

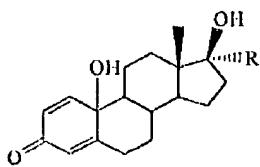
21-25 (Canceled).

26 (New). A quinol having the general structure



wherein R is ethynyl.

27 (New). A pharmaceutical composition comprising a quinol that is converted to a biologically active estrogen compound via enzyme catalyzed reduction, wherein said composition further comprises a pharmaceutically acceptable carrier, wherein said quinol has the structure:

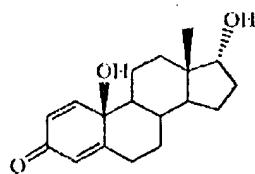


wherein R is ethynyl.

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28 (New). A quinol having the structure



29 (New). A pharmaceutical composition comprising a quinol that is converted to a biologically active estrogen compound via enzyme catalyzed reduction, wherein said composition further comprises a pharmaceutically acceptable carrier, wherein said quinol has the structure:

